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REMARKS

Claims 1-26 are pending. Claims 1, 10, 13, 17, 21, and 25 have been amended. Reconsideration and allowance of the present application based on the following remarks are respectfully requested.

In the Specification

The specification was objected to because paragraphs 19 and 20 contained references to Figure 5 instead of 5a. Applicants have amended the specification to correct this informality. Additionally, the Office Action indicated that “certain portions of each page of the specification are not readable”. Applicants submit herewith a copy of the originally filed specification which is readable. Accordingly, Applicants respectfully request withdrawal of this objection.

In the Drawings

The drawings were objected to because Figure 5 should have been labeled Figure 5a. Applicants submit herewith an amended drawing sheet which corrects this informality. Additionally, the drawings were objected to because “one or more holes” and “a plurality of ferrules” as recited in claim 25 were not shown in the drawings. Applicants have amended the specification and drawings to more clearly illustrate these features. Applicants submit that these amendments do not introduce any new matter since this matter was disclosed in the originally filed claims and in the originally filed specification, at least in the summary section.. Accordingly, Applicants respectfully request withdrawal of this objection.

Claim Rejections Under 35 U.S.C. § 112

Claims 17-26 were rejected under 35 U.S.C. § 112, second paragraph. Specifically the Office Action indicates that claims 17 and 21 have insufficient antecedent basis for the term “the ferrule” and the claim 25 has insufficient antecedent basis for the term “the interior wall”. Applicants have amended the claims to correct this informality. Accordingly, Applicants respectfully request reconsideration and withdrawal of this rejection.

Claim Rejections Under 35 U.S.C. § 102

A. Claims 1-4, 9, 13, and 15 were rejected under 35 U.S.C. § 102(b) over Takahashi. (U.S. Patent No. 5,600,744). Applicants respectfully traverse this rejection.

Claim 1 recites a ferrule having an interior wall defining a hole, at least a portion of the interior wall comprising a layer of material preferentially softenable relative to the remainder of the ferrule, wherein the ferrule and the layer of material preferentially softenable relative to the remainder of the ferrule are substantially similar materials. In contrast, Takahashi discloses a ferrule (not shown) into which the optical fiber 13 is inserted and fastened thereto with wax. This arrangement is used in Takahashi to form the conical endface 11 by polishing the ferrule (column 5, lines 15-20). As would be understood by a person skilled in the art, the ferrule described by Takahashi is not constructed of a material similar to that of the wax used to fasten the optical fiber. Accordingly, Takahashi does not teach that the ferrule and the layer of material preferentially softenable relative to the remainder of the ferrule are substantially similar materials, as recited in claim 1.

Claim 13 recites, in part, a method of fusing an optical fiber into a ferrule including heating a layer such that at least a portion of the layer softens and flows between the interior wall and the optical fiber, and allowing the softened portion to solidify to form a permanently fused region between the ferrule and the optical fiber. In contrast, the wax described by Takahashi is not intended to provide a permanently fused region. Specifically, Takahashi teaches that once the conical endface 11 is formed, the wax can be heated and the optical fiber 13 can be removed from the ferrule (column 5, lines 35-40). Accordingly, Takahashi does not teach allowing the softened portion to solidify to form a permanently fused region between the ferrule and the optical fiber, as recited in claim 13.

Claims 2-4, 9, and 15 are believed allowable for at least the reasons presented above with respect to claims 1 and 13 by virtue of their dependence upon claims 1 and 13. Accordingly, Applicants respectfully request reconsideration and withdrawal of this rejection.

B. Claims 1-4, 9, 13, and 15 were rejected under 35 U.S.C. § 102(b) over Yamamura et al. (U.S. Patent No. 5,770,132). Applicants respectfully traverse this rejection.

Claims 1 and 13 each recite, in part, a ferrule which includes a layer of material on the interior wall which is preferentially softenable relative to the remainder of the ferrule. In contrast, Yamamura does not disclose any such layer. Yamamura teaches only that the fiber is melted to so that the melt zone b3 (which is an additional space in the ferrule) collects the melted fiber to fix the fiber to the ferrule (column 4, lines 40-60). Nothing in Yamamura and nothing in claim 1 of Yamamura states that the melt zone b3 is of any material different from the rest of the ferrule. Claim 1 of Yamamura merely states that the heated element makes contact only with the melt zone b3 (column 7, lines 29-30). Accordingly, Yamamura does

not teach a ferrule which includes a layer of material on the interior wall which is preferentially softenable relative to the remainder of the ferrule, as recited in claims 1 and 13.

Claims 2-4, 9, and 15 are believed allowable for at least the reasons presented above with respect to claims 1 and 13 by virtue of their dependence upon claims 1 and 13. Accordingly, Applicants respectfully request reconsideration and withdrawal of this rejection.

C. Claims 1-4, 9, 13, and 15 were rejected under 35 U.S.C. § 102(e) over Aoki et al. (U.S. Patent No. 6,227,719). Applicants respectfully traverse this rejection.

Claims 1 and 13 each recite, in part, a ferrule which includes a layer of material on the interior wall which is preferentially softenable relative to the remainder of the ferrule. In contrast, Aoki discloses that the plastic optical fiber bodies which protrude from the front ends of the ferrules are melted and flattened such that the molten resin (of the fiber) is introduced into the fiber holding grooves of the ferrule (column 2, lines 35-43). In contrast to the present invention, Aoki teaches melting of the fiber not of the ferrule. Accordingly, Aoki does not teach a ferrule which includes a layer of material on the interior wall which is preferentially softenable relative to the remainder of the ferrule, as recited in claims 1 and 13.

Claims 2-4, 9, and 15 are believed allowable for at least the reasons presented above with respect to claims 1 and 13 by virtue of their dependence upon claims 1 and 13. Accordingly, Applicants respectfully request reconsideration and withdrawal of this rejection.

Claim Rejections Under 35 U.S.C. § 103

Claims 10-12, 17, 18, 20, 25, and 26 were rejected under 35 U.S.C. § 103(a) over Takahashi in view of Fernald et al. (U.S. Application No. 2003/0021306) and Tsuchiya et al. (U.S. patent No. 6,546,760). Applicants respectfully traverse this rejection.

Claim 10 recites, in part, a fiber Bragg grating device which includes a ferrule with a layer of material preferentially softenable relative to the remainder of the ferrule and a fiber including a Bragg grating disposed within the hole of the ferrule and permanently fused to the ferrule by at least partially softening the layer. As discussed above, the wax described by Takahashi is not intended to provide a permanently fused region. Specifically, Takahashi teaches that once the conical endface 11 is formed, the wax can be heated and the optical fiber 13 can be removed from the ferrule (column 5, lines 35-40). Neither Fernald or Tsuchiya remedy the deficiency of Takahashi. Accordingly, no combination of Takahashi, Fernald and Tsuchiya teach or suggest, a fiber Bragg grating device which includes a ferrule with a layer of material preferentially softenable relative to the remainder of the ferrule and a fiber

including a Bragg grating disposed within the hole of the ferrule and permanently fused to the ferrule by at least partially softening the layer, as recited in claim 10.

Claim 17 recites, in part, a method of manufacture which includes depositing a material preferentially softenable relative to a preform such that the preform and the layer of material preferentially softenable relative to the remainder of the preform are substantially similar materials, drawing the preform and cutting the preform to form a plurality of ferrules. As discussed above, Takahashi discloses a ferrule (not shown) into which the optical fiber 13 is inserted and fastened thereto with wax. This arrangement is used in Takahashi to form the conical endface 11 by polishing the ferrule (column 5, lines 15-20). As would be understood by a person skilled in the art, the ferrule described by Takahashi is not constructed of a material similar to that of the wax used to fasten the optical fiber. Additionally, Tsuchiya discloses, in column 5, line 40 that a preform is drawn to form an optical fiber, not a ferrule as recited in claim 17. Fernald does not remedy either of these deficiencies. Accordingly, no combination of Takahashi, Fernald and Tsuchiya teach or suggest, a method of manufacture which includes depositing a material preferentially softenable relative to a preform such that the preform and the layer of material preferentially softenable relative to the remainder of the preform are substantially similar materials, drawing the preform and cutting the preform to form a plurality of ferrules, as recited in claim 17.

Claim 25 recites, in part, a method of manufacture which includes depositing a material preferentially softenable relative to the tubular member onto the interior walls by chemical vapor deposition. The Office Action alleges that such a feature is disclosed in Takahashi. Applicants respectfully disagree. Takahashi does not disclose such a feature. Furthermore, as would be understood by a person skilled in the art, wax, would not be deposited by chemical vapor deposition. Neither Fernald or Tsuchiya remedy the deficiencies of Takahashi. Accordingly, no combination of Takahashi, Fernald and Tsuchiya teach or suggest a method of manufacture which includes depositing a material preferentially softenable relative to the tubular member onto the interior walls by chemical vapor deposition, as recited in claim 25.

Claims 11, 12, 18, 20, and 26 are believed allowable for at least the reasons presented above with respect to claims 10, 17, and 25 by virtue of their dependence upon claims 10, 17, and 25. Accordingly, Applicants respectfully request reconsideration and withdrawal of this rejection.

Conclusion

Applicants Appreciate the Examiner's indication that claims 5-8, 19, and 21-24 contain allowable subject matter and would be allowable if rewritten in independent form. However, in view of the foregoing, all the claims are believed to be in form for allowance, and such action is hereby solicited. If any point remains in issue which the Examiner feels may be best resolved through a personal or telephone interview, please contact the undersigned at the telephone number listed below.

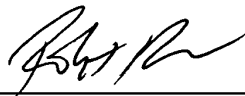
All objections and rejections having been addressed, it is respectfully submitted that the present application is in a condition for allowance and a Notice to that effect is earnestly solicited.

Please charge any fees associated with the submission of this paper to Deposit Account Number 03-3975 under Order No. 81295/278401. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Respectfully submitted,

Pillsbury Winthrop LLP

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